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EDUCATIONAL NOTES.

Interesting announcements regarding instruction in meteorology at Harvard University will be found in the prospectus of the division of geology, issued in pamphlet form June 20, 1907, as number 24 of Volume IV of the Official Register of Harvard University.

Geology B is the elementary course in meteorology, and is required for admission to all the courses in climatology. It counts as a half course, is given during the second half year, and includes three lectures and four hours of laboratory work each week. It is open to freshmen.

Geology 1 deals with the climatology of North America. It is a half course, given during the first half year, and includes three lectures each week and additional hours for laboratory work. It is designed to give a general view of the climates of North America especially suited to the use of students of physiography, forestry, and medicine.

Geology 2 is a half course on the geography of South America, given during the first half year. Assistant Professor Ward is the instructor, and special attention is paid to climatology.

Geology 3 (omitted in 1907-8) treats of the climatology of the Eastern Hemisphere.

Geology 19 is a half course in general climatology, given during the first half year. It includes three lectures each week and additional hours for laboratory work. It is recommended to students who intend to study medicine. The textbook is the English translation of Volume I of Hann's Handbuch der Klimatologie.

Geology 20e is a research course in climatology, primarily for graduates. It may be taken as a whole course or as a half course, but is open only to those who have past in all or most of the courses previously mentioned or who have had equivalent preparation.

In regard to the geographical and meteorological laboratory the pamphlet announces:

A large corner room on the third floor (of the geological section of the university museum building) is devoted to the elementary classes in physiography and meteorology, and is provided with tables for about forty men. Adjoining this room are two smaller rooms used for lectures before advanced classes.

As an adjunct to the meteorological laboratory, there is a students' meteorological observatory. This observatory, equipped for the practical instruction of students, is established on the roof of the geological section of the museum, with an instrument room immediately below.

Mr. H. L. F. Morse, head of the department of science in the Troy, N. Y., High School, informs us that at that school considerable attention is given to the study of meteorology. In the physics classes, numbering in all about fifty pupils, as much time as possible is spent on meteorology, under the heads of barometry, thermometry, and heat propagation. Some of the pupils get interested and pursue meteorology by themselves, following along from the weather map that comes to the school each afternoon.

In the physical geography class, numbering from forty to fifty pupils, each pupil makes, on transparent paper, a diagram from some dozen or more "lows" on the same piece of paper, each set of arrows being superposed on all the others. Also a similar diagram is prepared from a dozen "highs." From several sets of consecutive maps storm paths are traced across the continent. Each pupil makes a complete weather map from the telegraphed data. During a month in the fall and again in the spring the pupils take daily turns in reading the barometer and thermometers (dry and wet bulbs, maximum and minimum), and noting the wind direction and weather, and during these periods the weather of each day is discussed in class for fifteen minutes, the pupils finding the cause from the map of the day itself or that of the preceding day.

Most of the boys and some of the girls in this class become very good forecasters, and scarcely need to look at the predictions on the maps received from Albany.

DISSEMINATION OF USEFUL KNOWLEDGE.

The Secretary of Agriculture has been informed of the following resolution recently adopted in London:

That the members of the International Conference on Hybridization and Plant Breeding, gathered from all parts of the world, and assembled in the hall of the Royal Horticultural Society of Great Britain, desire to express to the President of the United States of America, and to the Minister of the Department of Agriculture at Washington their hearty appreciation of and thanks for the invaluable assistance which has been given to farmers, horticulturists, planters, and scientific men throughout the whole world by the liberal distribution of American research publications.

As our Government has sometimes been criticized for its efforts to disseminate useful knowledge, it is a pleasure to receive such hearty appreciation and recognition of its work. If the knowledge acquired by research at the expense of the people can be widely disseminated and made available in many practical ways, then civilization is advanced, the permanent security of the Government is assured, and an additional argument is offered for the wisdom of our forefathers in establishing a government of the people, by the people, and for the people.

METEOROLOGICAL TERMS USED IN THE PHILIPPINES.

Under date of December 23, 1906, Capt. John P. Finley, Governor of the District of Zamboanga, submits a list of native names of certain meteorological terms. This list is given in English, Maguindanao Moro, Sulu Moro, Malay, and Spanish. The Maguindanao Moro is given in both English and Arabic characters.

We regret that, not having a font of Arabic characters, we can print the Maguindanao Moro only in English characters.

As a general rule the number of specific terms applicable to specific weather conditions indicates the extent of the national habit of a close consideration of the atmosphere in its relation to the every-day occupations of the people. Among some nations it is the rain, among others the wind, and among others still the sunshine that most frequently attracts attention. It is specially interesting to find words for ice and snow coined by people who certainly very rarely, if ever, become acquainted with these in a natural way in such a tropical climate as that of the Philippines.

List of certain meteorological terms used in the Philippines.

English.	Maguindanao Moro.	Sulu Moro.	Malay.	Spanish.
White clouds	Gabun a maputi.	Andum puti.	Awan puti.	Nubes blancas.
Dark clouds	Gabun a maytım or (Ründüng).	Gabun.	Awan itam.	Nubes oscuras.
High clouds	Gabun a mapuru.	Awan Mata'as.	Awan tinggi.	Nubes elevadas.
Low clouds	Gabun a mababa.	Awan hababa.	Awan randah or rendah.	Nubes bajas.
Clouds	Gabun.	Awan.	Awan.	Nubes.
Fog	Lüküp.	Gabun.	Kabut.	Niebla.
Rain	Uran.	Ulan.	Hujan.	Lluvia.
Heat	Kayaw.	Pasu.	Panas.	Calor.
Cold	Kat inggaw.	Haggut.	Sejuk.	Frio.
Rainbow	Bulutu or tupung.	Inak.	Plangi.	Arco iris.
Storm	Ribut or Subu-subu.	Hunus or unbak Tawpan.	Ribut.	Tormenta.
Thunder	Ruggung.	Dawug-dug or Daug-dug.	Guroh.	Trueno.
Lightning	Kilat.	Kilat.	Kilat.	Relampago.
Wind	Undu.	Hangin.	Angin.	Viento.
Snow or hail	Uran-watu.	Ulan batu.	Thalj (Ar.).	Nieve ó granizo.
Ice	Ig-a-watu.	Tubig-batu.	Ayar baku.	Hielo.
Moisture	Magbasa or Musa.	Basa.	Lengas.	Humedad.
Current	Margus Ig.	Sug.	Arus.	Corriente.
Kite	Layang-layang.	Taguri.	Layang-layang.	Cometa.
Waterspout	Subu-subu.	Buhawi.	Puting blion.	Manga Marina.
Whirlwind	Ripurus.	Ayimpus or Aimpus.	Angin Puting blion.	Remolino.
Sunlight	Sigay.	Sawa.	Trang.	Luz del Sol.
Darkness	Kalibutung.	Lindom.	Glap.	Oscuridad.
Moon	Ulan-ulan.	Bulan.	Bulan.	Luna.
Sun	Snang.	Suga.	Mata hari.	Sol.
Star	Bitun.	Bit'un.	Bintang.	Estrella.
Weather (day)	Gay.	Adlaw.	Musim.	Tiempo.

WEATHER BUREAU MEN AS EDUCATORS.

The regular course of instruction in meteorology at the University of Missouri, at Columbia, was given this year by Mr. George Reeder, section director. The duration covered the entire second semester. The class consisted of medical, agricultural, and engineering students in about equal number, in all about thirty, and was divided into four sections. Charts, photographs, lantern slides, and especially blackboard diagrams were used. References were made to the books by Davis, Waldo, Hann, and Ferrel; to Bartholomew's Physical Atlas, Volume III, and to the publications of the Weather Bureau. Observations, written exercises, and laboratory work, including the making of weather maps and forecasting, were required. The final examination was sustained in a very creditable manner, and great interest was taken in the entire course.

During the past year Mr. Reeder has delivered several special lectures outside of the regular course. The most important of these were one on "Meteorological instruments and their uses", to a body of visiting State teachers, and one on "Clouds" (illustrated), to the Society of Senior and Junior Engineers of the university.

The set of lantern slides illustrating the work of the Weather Bureau and the accompanying lecture prepared by Mr. John R. Weeks, of the Binghamton, N. Y., office, had, up to June 12, been exhibited and given in twenty places. In many of these they have been used in several schools, or schools have united in their use. The lectures have been open to the public, and have usually been announced in the local papers. Nearly thirty other requests have been received, which it is hoped to comply with during the next school year.

According to The Laurentian, the organ of the students of St. Lawrence University, Canton, N. Y., the honorary degree of master of arts was conferred upon Merton Leonard Fuller, of the United States Weather Bureau. Mr. Fuller has been in charge of the local weather station during the past year, and has also served the university as a lecturer on meteorology and climatology. He has won the esteem of all who

know him and made many friends, and the action of the trustees in conferring this degree was a matter of general congratulation.

Under date of July 23, Mr. Fuller reports as follows relative to his educational work during the past year:

In St. Lawrence University an elective course in meteorology, three hours per week, open to junior and senior classes, was continued throughout the year. The first semester was devoted to meteorology, using a part of Davis's text as a basis; the second semester to a course of lectures on general climatology, with student reports and laboratory work, using as a foundation a number of official and standard works. Final examinations were given at the end of each semester and past by every student. The number of students electing the course increased materially for the second semester, during which period the class enrolled nearly one-fourth of all those eligible to the work, and more than one-seventh of the entire enrollment of the university, excepting, of course, that portion of the university not located at Canton. The class in physiography taught during a part of the second semester is not included in any manner in the statements of this letter.

For the lectures of the second semester over 500 slides were used, fully half of which are now a part of my personal equipment for future work. In my personal equipment is also a Thompson combination reflectoscope and lantern, by which drawings or photographs may be thrown directly upon the screen without the need of slides, and supplementary use was made of this method.

Most of the slides in my personal stock were made to order for the work of the semester. They were prepared from original material, or taken from Weather Bureau Bulletins P and Q, Bartholomew's Physical Atlas, Vol. III, the MONTHLY WEATHER REVIEW, or from various other works in the station library or loaned by the Central Office. Weather Bureau Bulletin Q and Bartholomew's Atlas were especially valuable sources, and were extensively drawn upon.

In addition to the work at St. Lawrence University was the course of seventeen or eighteen lectures given at Potsdam, N. Y., during the second semester, in connection with which a class of nine students of Clarkson School of Technology (one of the original ten having left school) received one hour's credit for the lectures, collateral reading, and examination.

There were also during the winter and spring two lectures before teachers' institutes and three before farmers' institutes, some of which, it is thought, were previously reported.

Besides the foregoing, considerable has been done on a personal card index for use in meteorological educational work. This now covers nearly all the station library and selected subjects in the large university library, and is already of valuable service.

The following lectures and addresses by Weather Bureau men have been reported: